What is claimed is:

1. A system for exchanging data between an object-oriented system and a relational system having tables defining a relational model, the system comprising:

at least one object class definition defining an object model;

an object relational mapping data structure defining a mapping between the object model and the relational model, the object relational mapping data structure produced from a declarative ORM Specification based on an ORM grammar;

an exchange unit for translating data from the object model to the relational model and for translating data from the relational model to the object model.

2. The system of claim 1, wherein the exchange unit further comprises:

an object call processing unit having inputs and outputs for receiving object calls and beginning the translation of the object calls, an input and an output of the object call processing unit coupled to the object-oriented system;

a mapping unit having inputs and outputs for performing the object-relational mapping according to the object relational mapping specification in response to signals from the object call processing unit, the mapping unit having inputs coupled to the object class definition, the object relational mapping data structure, and input and outputs the object call processing unit; and

a database interface unit having inputs and outputs, for retrieving and storing data in the relational system, the inputs and outputs coupled to the relational system and the mapping unit.

3. The system of claim 2 wherein the object call processing unit intercepts Application Programming Interface (API) level calls for object manipulation and executes the API level calls using the mapping unit.

4. The system of claim 1, wherein the exchange unit further comprises:

an object relational mapping specification defining a mapping between the object model and the relational model, the object relational mapping specification including a plurality of a declarative ORM grammar statements; and

an ORM Data Structure creation unit having inputs and an output for producing the object relational mapping data structure, the inputs of the ORM Data Structure creation unit coupled to receive the object class definition, the object relational mapping specification, and the database interface unit, the output of the ORM Data Structure creation unit coupled to the input of the mapping unit for providing the object relational mapping data structure.

5. The system of claim 1, further comprising a schema generator, the schema generator having inputs and outputs for generating a file of commands applicable on the relational system that implement the object call, the input of the schema generator coupled to the object class definition and the object relational mapping data structure, the output of the schema generator coupled to the relational system.

6. The system of claim 5, wherein the schema generator further comprises:

an ORM Data Structure creation unit having inputs and an output for producing the object relational mapping data structure, the inputs of the ORM Data Structure creation unit coupled to receive the object class definition and the object relational mapping specification;

a relational schema statements generation unit having an input and an output, the input of the relational schema statements generation unit coupled to the output of the ORM Data Structure creation unit for receiving the object relational mapping data structure, the relational schema statements generation unit producing a file of statements that will produce the relational schema in the relational system; and

a relational schema statements application unit having an input and an output for applying statements to the relational system, the input of the relational schema statements application coupled to the output of the relational schema statements generation unit for receiving the file of statements that will produce the relational schema in the relational system, the output of the relational schema statements application unit coupled to the input of the database interface unit for applying the statements on the relational system.

7. The system of claim 1, wherein the relational system is a relational database management system.

8. The system of claim 7, further comprising:

a plurality of RDBMS Tables stored in the relational system, the plurality of RDBMS Tables setting forth the organization and structure of the data in the relational model in addition to describing certain functionality provided by the relational model; and

a plurality of ORMMetadata Tables stored in the relational system, the plurality of ORMMetadata Tables storing additional object relational specifications.

9. The system of claim 1 further comprising a schema reverse-engineering unit for creating object class definitions and an object relational mapping specification using a database schema.

10. The system of claim 9, wherein the schema reverse-engineering unit further comprises:

an ORM template specification containing names of tables to be used for generating object class definitions;

database metadata inquiry unit for accessing the relational system to retrieve metadata including a schema for the relational model and information about the object model, the database metadata inquiry unit coupled to the relational system; and

reverse engineering ORM structure creation unit for producing an object relational mapping data structure from metadata, the reverse engineering ORM structure creation unit coupled to the output of the database metadata inquiry unit to receive the metadata and coupled to receive the ORM template specification.

11. The system of claim 10, wherein the schema reverse-engineering unit further comprises an ORM specification generation unit for producing an ORM specification from the object relational mapping data structure, the ORM specification generation unit coupled to the object relational mapping data structure.

12. The system of claim 10, wherein the schema reverse-engineering unit further comprises an object class definitions generation unit for producing the object class definitions from the object relational mapping data structure, the object class definitions generation unit coupled to the object relational mapping data structure.

13. The system of claim 1, further comprising a named sequence generator for generating persistently unique sequence numbers, the named sequence generator having inputs and outputs, the named sequence generator coupled to the relational system for and coupled to the object-oriented system by the exchange unit.